INDEX TO VOLUME LXVI

SCHOOL SCIENCE AND MATHEMATICS

1966

INDEX BY TITLES

A

Algebra in the Analysis of Sociometric Data, The Use of Matrix. FREDERICK SCHIPPERT 785
Alternative Hypotheses, A Demonstration of the Use of. CHARLES H. COLEMAN ... 81
Arithme, Putting the Tic in. Jo PHILLIPS 259
Attitude Measuring Instrument for Science Education, Development of an. LAWRENCE F. LOWERY 494

B

Bacillus Cereus, The Effect of Various Solutes on. LINDA ROY 565
Biochemistry of Cholesterol. DAVID BROWN 439
Biology—A Judgment, Stop Teaching. LEW E. WISE 535
Biology Instruction, Innovations in Secondary. DONALD J. SCHMIDT and DARYL D. SMITH 325
BOOK REVIEWS
An Introduction to Matrices, Vectors, and Linear Programming—Campbell, CECIL B. READ 232
Archimedes, Mathematician and Inventor—Gardner, ILLA PODENDORF 772
Ask Me a Question About the Weather: Ask Me a Question About the Earth; Ask Me a Question About the Heavens—Rosenfeld, ILLA PODENDORF 691
Astronomy: Gravitation; The Message of Starlight; The Life Story of a Star; Galaxies and the Universe—University of Illinois, JACQUELINE MALLINSON 608
Basic Mathematical Concepts—Wren, CECIL B. READ 231
Benjamin Franklin, Scientist-Diplomat—Daugherty, ILLA PODENDORF 871
Charles Proteus Steinmetz, Wizard of Electricity—Berry, ILLA PODENDORF 871
Chemistry: Science of Matter, Energy and Change—Choppin, GERALD OSBORN. 609
Galileo Galilei, Space Pioneer—Gregor, ILLA PODENDORF 772
Integrated College Algebra and Trigonometry—Beckenbach and Drooyan, CECIL B. READ 872
Introductory Geology, A Programmed Text—COX, JOHN DROSTE 317
Mathematical Puzzles and Pastimes—Bakst, CECIL B. READ 231
Modern Chemistry—Metcalfe, Williams, Castka—GERALD OSBORN 521
Modern Trigonometry—Wooten, Beckenbach and Dolciani—DONALD HEIKKINEN 401
Sally's Caterpillar—Rockwell, ILLA PODENDORF 871
Science for the Elementary School—Victor, ILLA PODENDORF 771
Science in Elementary Education—Gega, JACQUELINE MALLINSON 521
Science Problems—Beauchamp, Mayfield and Hurd, DON WINSLOW 232
Science Teaching and Testing—Nedelsky, JACQUELINE MALLINSON 118
Stratigraphy and Life History—Kay, JOHN DROSTE 318
Symmetry in Chemistry—Jaffe and Orchin, GERALD OSBORN 771
Teaching the Pursuit of Science—Woodburn and Obourn, DON WINSLOW 401
The Biochemical Approach to Life—Jevons, DON WINSLOW 118
The Chemistry of the Non-Metals—Jolly, GERALD OSBORN 691
Book Vignettes 114, 228, 314, 397, 518, 000, 688, 767, 868
Books and Teaching Aids Received 111, 223, 311, 395, 516, 000, 681, 763, 866
Books for the High School Science Shelf, Eighth Series: 1965, New. LOUIS PANUSH 455

C

Cardioaccelerator Action of Bats Due to a Rapid Change of Position. ANDREA KEMP 55
Central Association of Science and Mathematics Teachers 508, 670
Central Association of Science and Mathematics Teachers—1966 Conveniton . 321, 757, 773
Chemical Education in Great Britain—What Can We Learn? STANLEY KIRSCHNER 739
Chemical Education in the Present Michigan State Universities that Had Their Beginnings as State Normal Schools, The History of. GERALD OSBORN 705
Chemistry, Internal Consistency in Freshman. MARY ELLEN SCHAFF 652
Chemistry Programs (CHEMS and CBA) and the Traditional Programs in the High School, A Discussion of the New. LLOYD M. BENNETT and BARBARA KINNARD PYKE 823
Climates of Two River Basins, Investigating the. JOHN C. ARCHBOLD 421
Computer Activity for the Classroom, A. ARTHUR A. DELANEY 255
Computer Orientation in Livonia High Schools. CHARLES J. ZOET 274
Computer Programming for Junior High School, Resource Unit in. JOHN C. BIDDLE 539

Creative Thinking: Some Biological Unknowns and Procedural Likelihoods. H. Clay Jent 635
Credit Unions, Note on. R. F. Graesser 837
Curiosity and Science Education, On. John D. Cunningham 805

D

Decimals—Fact or Fiction, Repeating. Herbert Hannon 777
"Density"—A Real Problem, Teaching. Eugene Gennaro 559

E

Earth Science Unit Within the Reading Program of a Second Grade by Utilizing the Word Analysis Approach, a Study of the Integration of an. Lloyd M. Bennett and Cherie Clodfelter 729
Editor's Page 1, 119, 235, 319, 403, 523, 611, 693, 775
Electronegativity, Periodicity and Acid Strength. Darrell H. Beach 729
Electronic Structure, A Model for Demonstrating. Jean Patmos Segur 507
Enumerative Forms, Carrying and Borrowing. C. L. Greeno 852

F

Feeding Three Truck Drivers. C. L. Trigg 561
Finger Multiplication for Arbitrary Numbers. Gary Musser 650
First Lessons on Natural Philosophy for Children. Mary A. Swift 290, 345, 447
Fluoride on Growth and Germination of Bean Plants, Effect of. Margaret White 180

G

Geometrical Approximation of π, A. Peter A. Steveson 426
Geometry in the Secondary Schools of Greece: A Comparative Study. G. H. Miller 817
Geometry Instruction in Denmark, Secondary School. Francine Abeles 125
Geometry Prediction with Emphasis Upon Methodology and Theory, A Summary of the Literature of. Gerald S. Hanna 723

H

Hetero-Hexagons of the Second Order. Charles W. Trigg 216
History of Mathematics—A Bibliography of Articles in English Appearing in Seven Periodicals, The. Cecil B. Read 147
Hypsometer—A Trigonometry Aid, The. Sister M. Maris, P.H.J.C. 6

I

Integers as Ordered Pairs, Introducing the. Forrest L. Coltharp 277
Inquiry in the Elementary School Science Curriculum. Alphoretta S. Fish and T. Frank Saunders 13
Investigations Relating to Mathematics in Elementary Education: 1965, A Summary of. Paul C. Burns and Donald J. Dessart 838
Iteration. Walter H. Carnahan 551

L

Line, A. Willa Alfreda Campbell 576
Linear Transformations and Their Graphs. Howard L. Walton 331
Livonia's Project Science—A Reality Centered Curriculum. Leroy C. Bennett ... 247

M

Magic Squares—More Than Recreations. Gerald Brown 23
Mantissa is?, Do Your Students Know What a. Cecil B. Read 703
Master's Degree Program for Secondary School Science Teachers, A Reasonable Approach to. Thomas P. Fraser 795
Math-Science Activity for Process Teaching at the Junior High School Level, An Integrated. Charles V. Souers 3
Mathematical Needs of Students in a Traditional Physics Course, An Experimental Study to Investigate the. Richard A. Parque 405
Mathematics and Science Teaching, Correlation of. David E. Kullman 645
Mathematics Enrichment Through Projects. Joseph J. Scott 737
Mathematics in Secondary Education: 1964, A Summary of Investigations Relating to. Paul J. Burns and Donald J. Dessart 73
Mathlands, The United. George T. Bishop 801
Matrices and Certain Linear Equations. Ali R. Amir-Moéz 68
Measurement for Upper Elementary and Junior High School Students, Ideas to

Stimulate Lessons on. CHARLES V. SOUERS and DONALD R. WINSLOW..... 532
Measurement in Elementary School Mathematics, a Study of the Case for. LLOYD SCOTT..... 714
Measuring the Speed of a Baseball. KENNETH P. KIDD..... 360
Meteorology, A High School Course in. JAY M. JEFFERY..... 491

N

N.S.F. Conferences for High School Teachers..... 210
N.S.F., Institutions Offering Research Participation Programs for High School Teachers—Sponsored by..... 102
N.S.F., 1966 Summer Institutes, Sponsored by..... 92
N.S.F. 1966 Summer Institutes for Elementary School Personnel..... 208
N.S.F. Secondary Science Training Programs..... 198
Nomenclature and Codes in Science, Solving the Problem of..... 575

O

Opaque Projector, Extending the Use of. DARREL HOFF..... 121

P

Permutacrostic, A Holiday. CHARLES W. TRIGG..... 704
Physics Students in the Fourth Grade, The Utilization of Advanced. ALLEN SMITH 135
Physics, Why Not High School? GERALD ABEGG and GLENN H. CRUMB..... 211
Postulational System for High School Students, The Lank of the Gonks, An Original. SISTER FRANCIS MARY HESSER..... 527
President's Message. M. WILES KELLER..... 319
Princeton Project or ESCP: A Difficult Choice. HORACE MACMAHAN, JR..... 80
Problem Department. MARGARET F. WILLERDING 106, 218, 307, 390, 512, 595, 676, 758, 861
Problem Solutions that Ask Questions. HENRY D. SNYDER..... 373
Programmed Learning and Intelligence. FRANK P. BELCASTRO..... 29
Proof of the Theorem: If a Line Divides Two Sides of a Triangle Proportionally, Then It Is Parallel to the Third Side, A Direct. ROBERT M. TODD..... 700
Pythagoras' Theorem? Or Its Converse? Which Precedes the Other? D. RAMESWAR RAO..... 342

R

Ratio to Rational Number, From. JAMES KING BIDWELL..... 661
Reading About Science?, Want to Get Out of the Rut of. HARRY MCANARNEY.... 51
Recent Developments in Science in Assessing the Objectives of Modern Instruction, Meeting the Challenge of. WILLIAM B. REINER..... 335
Rigidity in Children's Problem Solving. JOHN D. CUNNINGHAM..... 377
Roman Numerals in Modern Mathematics Classes, The Effective Teaching of. R. C. BRADLEY and N. WESLEY EARP..... 415
Rule of N-1, The. FRANCINE ABELES..... 563

S

Science Educator Goes to Warsaw, A. GLADYS S. KLEINMAN..... 63
Science Preparation of Ohio Elementary School Teachers Applying for NSF Institutes, A Study of. JERRY L. GALLENTINE and ROBERT R. BUELL..... 573
Science Program, So You Want to Provide a Modern. WILLIAM H. LABAHN..... 695
Science Teacher Attitudes Toward a New Biology Program, The Effectiveness of Four Methods of Determining. JACOB W. BLANKENSHIP..... 831
Science Teaching: Creative Use of the Conventional. HOWARD B. BAUMEL and J. JOEL BERGER..... 556
Science Teaching, New Perspectives in. WILLIAM C. CURTIS..... 655
Science Teaching Practices in Texas Junior High Schools, Comparison of Current. LLOYD M. BENNETT..... 141
Significant Digits, A Fresh Look at. PHYLLIS F. KAVETT..... 437
Slide Rule for Relationships Involving Three Variables, A. L. M. WEINER..... 138
Solar System Do Thermodynamic Circumstances Most Favor Life?, Where in the. LEWIS EPSTEIN..... 613
Students Attitudes in Science Courses, Some Aspects of the. JOHN W. WICK and ROBERT E. YAGER..... 269
Structured-Equation Approach to Problem Solving with a Traditional Approach, A Comparison of a. HAROLD H. LERCH and HELEN HAMILTON..... 241
Sunshine and Shadows. MARVIN J. PRYOR..... 191

T

Telescope; Will Travel, Have. DAVID E. LAIRD 617
Test for Comprehension of Science Concepts, Picture. CHARLOTTE M. BOENER 409
Testing, Getting the Show on the Road or A Problem of. PETER K. GURAU 503
Tests, Note on Multiple Choice. R. F. GRAESSER 526
Time Allotment Practices in Intermediate Grades, Arithmetic and Science. OSCAR T. JARVIS 322
Trade Books and Communications. THOMAS G. AYLESWORTH 237
Tumor Immunity in Mice, Phase I: The Biological Problem. GREGORY RAUGI 283
Tumor Immunity in Mice, Phase II: The Immunological Problem. GREGORY RAUGI 365

U

Unified Science, Are You Prepared to Teach a Course in. KENNETH D. GEORGE and SUSAN H. WRENCH 429

V

Verbal Reasoning and Numerical Ability to Achievement in First-Year Algebra, Relationship of. RALPH W. CAIN 131
Vocabularies, Principles, and Objectives of Textbooks in High School Chemistry and and Popular Literature, An Investigation and Comparison of the. ASHLEY G. MORGAN, JR. and CHARLES L. KOELSCHE 37

INDEX BY AUTHORS

A

ABEGG, GERALD, Kansas State Teachers College, Emporia, Kansas 211
ABELES, FRANCINE, Newark State College, Union, New Jersey 125, 563
AMIR-MOÉZ, ALI R., Texas Technological College, Lubbock, Texas 68
ARCHBOLD, JOHN C., Spring Valley, California 421
AYLESWORTH, THOMAS G., Doubleday and Co., New York, New York 237

B

BAUMEL, HOWARD B., Staten Island Community College, Staten Island, New York 556
BEACH, DARRELL H., Culver Military Academy, Culver, Indiana 631
BELCASTRO, FRANK P., Merrimack College, N. Andover, Massachusetts 29
BENNETT, LEROY C., Livonia Public Schools, Livonia, Michigan 247
BENNETT, LLOYD M., Texas Woman's University, Denton, Texas 141, 729, 823
BERGER, J. JOEL, Nassau Community College, Garden City, New York 556
BIDDLE, JOHN C., University School, Indiana University, Bloomington, Indiana ... 539
BIDWELL, JAMES KING, University of Michigan, Ann Arbor, Michigan 661
BISHOP, GEORGE T., Portsmouth High School, Portsmouth, Rhode Island 801
BLANKENSHIP, JACOB W., Oklahoma State University, Stillwater, Oklahoma 831
BOENER, CHARLOTTE M., Indiana State University, Terre Haute, Indiana 409
BRADLEY, R. C., North Texas State University, Denton, Texas 415
BROWN, DAVID, University of California, Davis, California 439
BROWN, GERALD, California State College, Haywood, California 23
BUELL, ROBERT R., The University of Toledo, Toledo, Ohio 573
BURNS, PAUL C., University of Tennessee, Knoxville, Tennessee 73, 838

C

CAIN, RALPH W., The University of Texas, Austin, Texas 131
CAMPBELL, WILLA ALFREDA, Carver Senior High School, Spartanburg, South Carolina 576
CARNAHAN, WALTER H., New Castle, Indiana 551
CLODFELTER, CHERIE, Irving Public Schools, Irving, Texas 729
COLEMAN, CHARLES H., Defense Supply Agency, Chicago, Illinois 81
COLTHARP, FORREST L., Kansas State College of Pittsburg, Pittsburg, Kansas 277
CRUMB, GLENN H., Kansas State Teachers College, Emporia, Kansas 211
CUNNINGHAM, JOHN D., Keene State College, Keene, New Hampshire 377, 807
CURTIS, WILLIAM C., District of Columbia Teachers College, Washington, D. C. 655

D

DELANEY, ARTHUR A., New Hyde Park Memorial High School, New Hyde Park, New York 255

DESSART, DONALD J., University of Tennessee, Knoxville, Tennessee.....73, 838
DROSTE, JOHN, University of Indiana, Bloomington, Indiana.....317, 318

E

EARP, N. WESLEY, North Texas State University, Denton, Texas..... 415
EPSTEIN, LEWIS, Chrysler Corp. Space Division, New Orleans, Louisiana..... 613

F

FISH, ALPHORETTA S., University of Arizona, Tucson, Arizona..... 13
FRASER, THOMAS P., Morgan State College, Baltimore, Maryland..... 795

G

GALLENTINE, JERRY L., The University of Toledo, Toledo, Ohio..... 573
GENNARO, EUGENE, University High School, University of Minnesota, Minneapolis, Minnesota..... 559
GEORGE, KENNETH D., University of Pennsylvania, Philadelphia, Pennsylvania..... 429
GRAESSER, R. F., University of Arizona, Tucson, Arizona.....526, 837
GREEN, MORRIS, Roosevelt University, Chicago, Illinois..... 575
GREENO, C. L., Illinois Institute of Technology, Chicago, Illinois..... 852
GURAU, PETER K., American School of Rio de Janeiro, Rio de Janeira, Brazil..... 503

H

HAMILTON, HELEN, Herrin Elementary Schools, Herrin, Illinois..... 241
HANNA, GERALD S., Harcourt, Brace & World, Inc., New York, New York..... 723
HANNON, HERBERT, Western Michigan University, Kalamazoo, Michigan..... 777
HEIKINNEN, DONALD, State College of Iowa, Cedar Falls, Iowa..... 401
HOFF, DARREL, State College of Iowa, Cedar Falls, Iowa..... 121

J

JARVIS, OSCAR T., University of Georgia, Athens, Georgia..... 322
JEFFERY, JAY M., Cleveland Heights, Ohio..... 491
JENT, H. CLAY, Central Missouri State College, Warrensburg, Missouri..... 635

K

KAVETT, PHYLLIS F., Newark State College, Union New Jersey..... 437
KELLER, M. WILES, Purdue University, Lafayette, Indiana..... 319
KEMP, ANDREA, Menlo-Atherton High School, Atherton, California..... 55
KIDD, KENNETH P., University of Florida, Gainesville, Florida..... 360
KIRSCHNER, STANLEY, Wayne State University, Detroit, Michigan..... 73d
KLEINMAN, GLADYS S., Rutgers University, New Brunswick, New Jersey..... 63
KOELSCHE, CHARLES L., University of Georgia, Athens, Georgia..... 37
KULLMAN, DAVID E., The University of Kansas, Lawrence, Kansas..... 645

L

LABAHN, WILLIAM F., Elk Grove Schools, Elk Grove Township, Illinois..... 695
LAIRD, DAVID E., Cincinnati Country Day School, Cincinnati, Ohio..... 617
LERCH, HAROLD H., Southern Illinois University, Carbondale, Illinois..... 241
LOWERY, LAWRENCE F., University of California, Berkeley, California..... 494

M

MACMAHAN, HORACE, JR., University of Colorado, Boulder, Colorado..... 86
MALLINSON, GEORGE G., Western Michigan University, Kalamazoo, Michigan.....
.....1, 114, 119, 228, 235, 314, 397, 403, 518, 523, 604, 611, 688, 693, 767, 775, 868
MALLINSON, JACQUELINE, Western Michigan University, Kalamazoo, Michigan...521, 608
MC ANARNEY, HARRY, Kansas State University, Manhattan, Kansas..... 51
MILLER, G. H., Tennessee Technological University, Cookeville Tennessee..... 817
MORGAN, ASHLEY G., JR. University of Southern Mississippi, Hattiesburg, Mississippi..... 37
MUSSER, GARY, State University College, Buffalo, New York..... 650

O

OSBORN, GERALD, Western Michigan University, Kalamazoo, Michigan.....
.....521, 609, 691, 705, 771

P

PANUSH, LOUIS, Western High School, Detroit, Michigan..... 455

PARQUE, RICHARD A., Yucaipa High School, Yucaipa, California 405
PHILLIPS, JO, University of Illinois, Urbana, Illinois 259
PODENDORF, ILLA, University of Chicago Lab School, Chicago, Illinois .691, 771, 772, 871
PRYOR, MARVIN J., State University of New York, Albany, New York 191
PYKE, BARBARA KINNARD, Texas Women's University, Denton, Texas 823

R

RAO, D. RAMESWAR, Secunderabad, India 342
RAUGI, GREGORY, Brown University, Providence, Rhode Island 283, 365
READ, CECIL B., Central Michigan University, Mt. Pleasant, Michigan .....
.....147, 231, 232, 703, 872
REINER, WILLIAM B., Hunter College, New York, New York 335
ROY, LINDA, Menlo-Atherton High School, Atherton, California 565

S

SAUNDERS, T. FRANK, University of Arizona, Tucson, Arizona 13
SCHAFF, MARY ELLEN, The University of Wisconsin-Milwaukee, Milwaukee, Wisconsin 652
SCHIPPERT, FREDERICK, Detroit Public Schools, Detroit, Michigan 785
SCHMIDT, DONALD J., The University of Iowa, Iowa City, Iowa 325
SCOTT, LLOYD, University of California, Berkeley, California 714
SEGUR, JEAN PATMOS, Ann Arbor High School, Ann Arbor, Michigan 507
SISTER FRANCIS MARY HESSER, Mercy High School, Baltimore, Maryland 527
SISTER M. MARIS, P.H.J.C., St. Augustine High School, Chicago, Illinois 6
SMITH, ALLEN, Champaign Senior High School, Champaign, Illinois 135
SMITH, DARYL D., The University of Iowa, Iowa City, Iowa 325
SNYDER, HENRY D., University of Wisconsin-Milwaukee, Milwaukee, Wisconsin .. 373
SCOTT, JOSEPH J., Union County School District, Union, New Jersey 737
SOUERS, CHARLES V., University School, University of Indiana, Bloomington, Indiana 3, 532
STEVESON, PETER A., Bob Jones Academy, Greenville, South Carolina 426

T

TODD, ROBERT M., Boston University, Boston, Massachusetts 700
TRIGG, CHARLES W., San Diego, California 216, 561, 704

W

WALTON, HOWARD L., Yorktown High School, Arlington, Virginia 331
WEINER, L. M., Illinois Teachers College—North, Chicago, Illinois 138
WHITE, MARGARET, Menlo-Atherton High School, Atherton, California 180
WICK, JOHN W., University of Iowa, Iowa City, Iowa 269
WILLERDING, MARGARET F., San Diego State College, San Diego, California .....
.....106, 218, 307, 390, 512, 595, 676, 758, 861
WINSLOW, DONALD R., University School, Indiana University, Bloomington, Indiana 233, 401, 523
WISE, LEW E., University School, Indiana University, Bloomington, Indiana 535
WRENCH, SUSAN H., Cottonwood Falls High School, Cottonwood, Kansas 429

Y

YAGER, ROBERT E., University of Iowa, Iowa City, Iowa 269

Z

ZOET, CHARLES J., Livonia Public Schools, Livonia, Michigan 274